

MANUALLY OPERATED MONITOR / DELUGE VALVE - UL LISTED

Model FP-400Y-1D

The BERMAD model 400Y-1D is an elastomeric hydraulic, line pressure operated deluge valve, designed specifically for advanced fire protection systems and the latest industry standards. The 400Y-1D is activated manually by opening the local Manual Release Valve attached to the valve's control trim.

The 400Y-1D is ideal for use as a locally operated deluge valve for water spray or foam system nozzles. It is also well suited for installation directly before high capacity water/foam monitors as a Listed/ Approved quick opening water control valve. As standard the release valve is positioned locally on the valve, optionally the release valve can be positioned remotely enabling valve operation from a distance.

The optional valve position indicator can include a limit switch suitable for Fire & Gas monitoring systems.



Features & Benefits

- Safety and reliability
 - UL-Listed quick opening water control valve
 - Time proven, simple design with a fail safe actuation
 - Single piece, rugged elastomeric diaphragm seal - VRSD technology
 - Obstacle-free, uninterrupted flow path
 - No mechanical moving parts
 - Valve position limit switches (optional)
 - Local valve position indicator beacon (optional)
- High performance
 - Very high flow efficiency
 - Straight through Y type body
 - Approved for PN25 / 365 psi
- Specifically-designed for fire protection
 - Face-to-face length standardized to ISO 5752 EN 558-1
 - Meets the requirements of the industry standards
- Quick and easy maintenance
 - In-line serviceable
 - Fast and easy cover removal

Typical Applications

- Automatic water spray systems
- Fire monitor installations
- Manually operated deluge valve
- Hydraulic remote controlled systems
- Oil & Gas storage tanks

Approvals



UL-Listed
Special System Water Control
Valves, Deluge Type (VLFT)
Sizes 1½" - 16"



Det Norske Veritas
Type Approval
Sizes 1½" to 16"



ABS
American Bureau of Shipping
Type Approval
Sizes 1½" - 12"

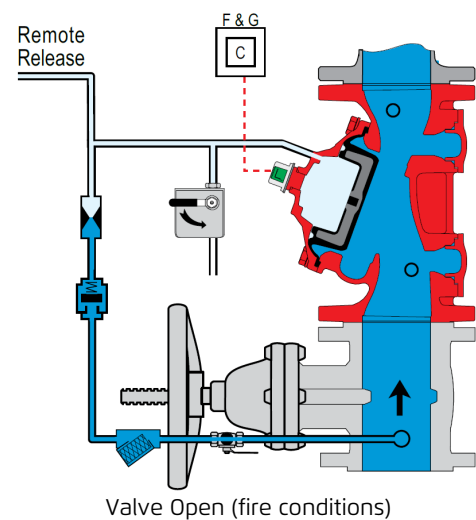
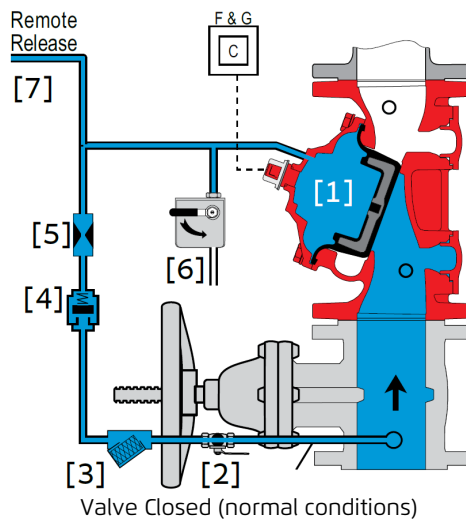


Lloyd's Register
Type Approval
Sizes 1½" - 10"

Additional Features

- Valve position limit switches
- Local valve position indicator beacon
- Hydraulic remote Manual Release station
- Seawater compatibility
- Drain valve/s inlet/outlet
- Corrosion resistant zinc based high build epoxy coating

Operation

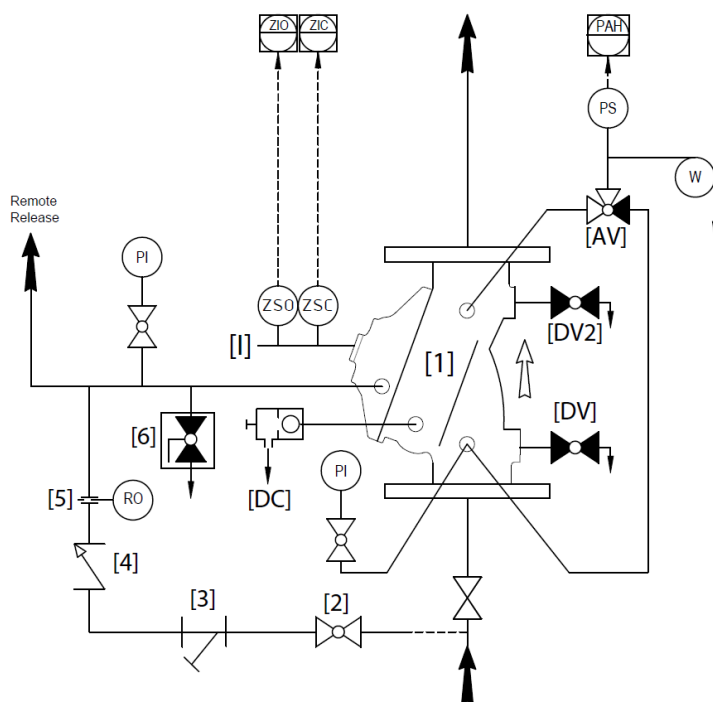


The BERMAD model 400Y-1D is held closed by water pressure in the control chamber [1]. Upon release of pressure from the control chamber, the valve opens.

Under NORMAL conditions, water pressure is supplied to the control chamber via the priming line [2] strainer [3], and a restriction orifice [5]. The water pressure is then trapped in the control chamber by the check valve [4], and a manual release valve [6].

Under FIRE conditions, water pressure is released from the control chamber, by opening the local manual release or, when fitted, by opening the hydraulic remote Manual Release [7]. This opens the deluge valve allowing water to flow into the system piping and to the fire extinguishing devices.

System P&ID



Components	
1	BERMAD 400Y deluge valve
2	Priming ball valve
3	Priming strainer
4	Check valve
5	Restriction orifice
6	Manual release

Optional System Items	
PS	Pressure Switch
W	Water Motor Alarm
ZS	Limit Switch Assembly
I	Visual Valve Position indicator
DV2	Downstream Drain valve
DV	Drain Valve*
PI	Pressure Gauge*
AV	3-way Alarm Test Valve*
DC	Automatic Drip Check Valve*

* Included with suffix A in valve code (drain and indicating components)
See code designations and "factory supplied additional items" on page 4

System Installation

A typical installation of the BERMAD model 400Y-1D features manual actuation via a 2 way release valve positioned either remotely or on the main valve's trim.

When fitted with a limit switch the valve can send a feedback signal to the remote valve position monitoring system.

Optional System Items



Rotating Limit
Switch Box



Visual Position
Indicator



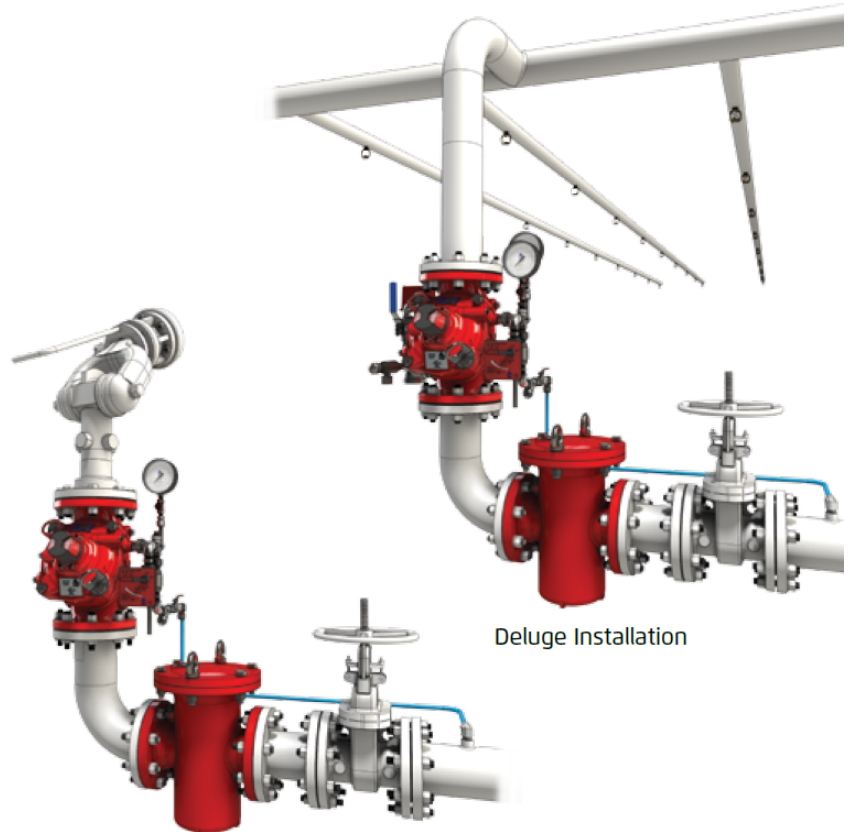
Exd Pressure
Switch - Stainless
Steel Enclosure for
Harsh



Environments
Pressure Gauge



Basket Strainer -
60F



Deluge Installation

Monitor Installation

Suggested Specifications

The deluge valve shall be UL-listed, 365-psi/25-bar rated, with a straight-through, Ytypebody.

The valve shall have an unobstructed flow path, with no stem guide or supporting ribs.

The deluge valve shall have no mechanical moving parts, and the actuation shall utilize a single-piece diaphragm assembly of VRSD technology.

The valve shall be coated internally and externally with UV protection. Optional: C5-VH grade of ISO-12944 standard against corrosive conditions.

The control trim shall include a manual emergency release unit, a Y-type strainer, two 4-inch pressure gauges, an automatic drip-check with manual override, and a ball drain valve with a 360 degree swivel.

A valve position indicator shall be provided, and equipped with two proximity limit switches.

Removing the valve cover for full inspection and maintenance shall be in-line and not require removal of the control trim.

The deluge valve and control trim shall be pre-assembled and hydraulically tested by a UL/FM and ISO 9000, 9001 certified factory.

Technical Data

Available Sizes:

Flanged- 1½, 2, 2½, 3, 4, 6, 8, 10, 12, 14 & 16"

Grooved- 1½, 2, 2½, 3, 4, 6, 8 & 10"

Pressure Rating:

ANSI#150 - 17.2 bar | 250 psi

ANSI#300 - 1½" to 10" - 25 bar | 365 psi

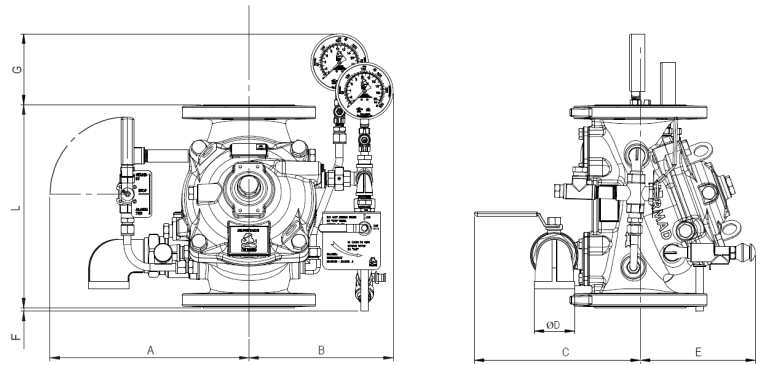
ANSI#300 - 12" to 16" - 20 bar | 300 psi

Grooved - 17.2 / 25 bar | 250 / 365 psi

Elastomer:

HTNR - Fabric Reinforced High Temperature

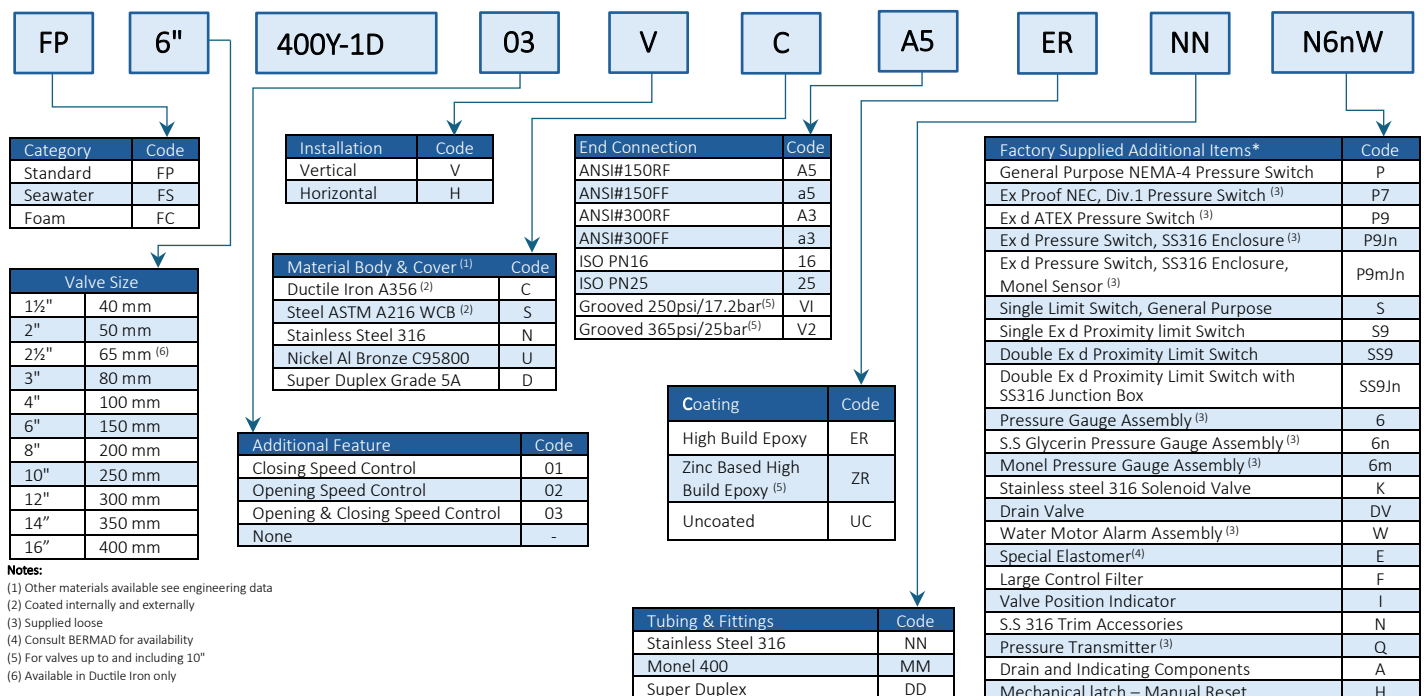
Compound - See engineering data



Valve Size	L #150 mm in	L Grooved mm in	L #300 mm in	A mm in	B mm in	C mm in	ØD in	E mm in	F mm in	G mm in	Weight #150 kg lb	Weight #300 kg lb
DN40 1½"	230 9.1	230 9.1	230 9.1	293 11.5	240 9.4	177 7	¾"	120 4.7	204 8	116 4.6	15 33	17.5 39
DN50 2"	230 9.1	230 9.1	238 9.4	293 11.5	240 9.4	177 7	¾"	120 4.7	204 8	116 4.6	17 37	15 33
DN65 2½"	235 9.3	235 9.3	241 9.5	296 11.7	240 9.4	183 7.2	1½"	120 4.7	204 8	116 4.6	18 40	20 44
DN80 3"	310 12.2	310 12.2	326 12.8	313 12.3	298 11.7	221 8.7	1½"	146 5.7	134 5.3	106 4.2	34 74	39 86
DN100 4"	350 13.8	350 13.8	368 14.5	343 13.5	249 9.8	287 11.3	2"	199 7.8	6 0.2	122 4.8	48 106	55 121
DN150 6"	480 18.9	480 18.9	506 19.9	358 14	363 14.3	302 11.9	2"	228 9	26 1	45 1.8	95 209	115 253
DN200 8"	600 23.6	600 23.6	626 24.7	392 15.4	391 15.5	317 12.5	2"	295 11.6	-	-	165 363	185 407
DN250 10"	730 28.7	730 28.7	730 28.7	406 16	391 15.4	317 12.5	2"	295 11.6	-	-	198 436	234 515
DN300 12"	850 33.5	-	888 35	478 18.8	504 19.8	380 15	2"	441 17.4	-	-	355 781	405 891
DN350 14"	980 38.6	-	980 38.6	478 18.8	504 19.8	379 14.9	2"	441 17.4	-	-	391 860	453 997
DN400 16"	1100 43.3	-	1100 43.3	478 18.8	504 19.8	405 15.9	2"	415 16.3	-	-	442 972	562 1236

IMPORTANT: Dimensions for the trim envelope or extents refer to a vertical orientation and may vary with specific component positioning - Apart from the "L" dimension, allow a tolerance of at least ±15%

Valve Code Designations



*More options available – consult BERMAD